

<b>Piscataquis Community High School/</b>	)	<b>Departmental</b>
<b>Middle School Complex</b>	)	<b>Findings of Fact and Order</b>
<b>Piscataquis County</b>	)	<b>Air Emission License</b>
<b>Guilford, Maine</b>	)	
<b>A-68-71-H-R/M</b>	)	

After review of the air emissions license amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

## **I. REGISTRATION**

### **A. Introduction:**

Piscataquis Community High School/Middle School Complex (PCS) in Guilford, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their educational facility complex. The complex consists of the High School (PCHS), the Middle School (PCMS) and a Bus Garage.

PCS has requested an amendment to their air emission license to replace the PCHS Boiler #1 with two smaller boilers that will be designated PCHS Boilers #1 and #2. PCS has also requested to add an emergency generator to their License.

### **B. Emission Equipment:**

PCS is licensing to operate the following equipment:

#### **Fuel Burning Equipment**

<b><u>Equipment</u></b>	<b><u>Maximum Capacity (MMBtu/hr)</u></b>	<b><u>Maximum Firing Rate (gal/hr)</u></b>	<b><u>Fuel Type,</u></b>	<b><u>Stack #</u></b>
*PCHS Boiler #1	4.4	31.5	#2 fuel oil	1
*PCHS Boiler #2	4.4	31.5	#2 fuel oil	1
PCMS Boiler #1	4.9	35.0	#2 fuel oil	2
PCMS Boiler #2	4.9	35.0	#2 fuel oil	3
*PCHS Generator	1.13	8.2	Diesel Fuel	4

\* indicates new equipment

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PCS also operates a PCHS hot water heater rated at 0.25 MMBtu/hr. This water heater is considered insignificant per MEDEP Chapter 115 and is listed for inventory purposes only.

C. Application Classification:

This amendment will increase emissions by less than 4 ton/year for each single pollutant and less than 8 ton/year for all pollutants combined. Therefore, this application is determined to be a License renewal with a minor revision and has been processed as such.

**II. BEST PRACTICAL TREATMENT (BPT)**

A. Introduction:

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Air Regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved

B. PCHS Boiler #1 & PCHS Boiler #2:

PCHS Boiler #1 and PCHS Boiler #2 were manufactured in 2006 each with a maximum heat input capacity of 4.4 MMBtu/hr firing #2 fuel oil. They are therefore not subject to EPA New Source Performance Standards (NSPS) Subpart Dc, for boilers with a heat input of 10 MMBtu/hr or greater and manufactured after June 9, 1989.

A summary of the BACT analysis for PCHS Boiler #1 & PCHS Boiler #2 follows:

1. The total fuel use for PCHS Boilers #1 and #2 shall not exceed 60,000 gallons of #2 fuel oil, on a calendar year basis.

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2. The SO<sub>2</sub> emission limits are based on the firing of fuel which meets the criteria in ASTM D396 for #2 fuel oil.
3. Chapter 103 regulates PM emission limits. However, the PM limit of 0.08 lb/MMBtu is more stringent and shall be considered BACT. The PM<sub>10</sub> limits are derived from the PM limits.
4. NO<sub>x</sub>, CO, and VOC emission limits are based upon AP-42 data dated 9/98.
5. Visible emissions from the boilers shall each not exceed 10% opacity on a six (6) minute block average, except for no more than one (1), six (6) minute block average in a continuous 3-hour period.

**C. PCMS Boiler #1 & PCMS Boiler #2:**

PCMS Boiler #1 and PCMS Boiler #2 were manufactured in 1994 each with a maximum heat input capacity of 4.9 MMBtu/hr firing #2 fuel oil. They are therefore not subject to EPA New Source Performance Standards (NSPS) Subpart Dc, for boilers with a heat input of 10 MMBtu/hr or greater and manufactured after June 9, 1989.

A summary of the BPT analysis for PCMS Boiler #1 & PCMS Boiler #2 follows:

1. The total fuel use for PCMS Boilers #1 and #2 shall not exceed 60,000 gallons of #2 fuel oil, on a calendar year basis.
2. The SO<sub>2</sub> emission limits are based on the firing of fuel which meets the criteria in ASTM D396 for #2 fuel oil.
3. Chapter 103 regulates PM emission limits. The PM<sub>10</sub> limits are derived from the PM limits.
4. NO<sub>x</sub>, CO, and VOC emission limits are based upon AP-42 data dated 9/98.
5. Visible emissions from the boilers shall each not exceed 20% opacity on a six (6) minute block average, except for no more than one (1), six (6) minute block average in a continuous 3-hour period.

**D. PCHS Generator**

PCS is proposing to install one 125 kW Emergency Generator at PCHS. A summary of the BACT analysis for PCHS Generator is the following:

1. The PCHS Generator shall fire only diesel fuel with a maximum sulfur content not to exceed 0.05% by weight.
2. The PCHS Generator shall be limited to 500 hr/yr of operation based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.

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3. Chapter 106 regulates fuel sulfur content, however in this case a BACT analysis for SO<sub>2</sub> determined a more stringent limit of 0.05% was appropriate and shall be used.
4. The PM emission factor of 0.12 lb/MMBtu shall be considered BACT. The PM<sub>10</sub> limits are derived from the PM limits.
5. NO<sub>x</sub>, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
6. Visible emissions from the PCHS Generator shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2), six (6) minute block averages in a continuous 3-hour period.

**E. Annual Emissions and Fuel Restrictions**

1. PCHS Boilers #1 and #2 shall be limited to a total of 60,000 gallons of #2 fuel oil on a 12 month rolling total.
2. PCMS Boiler #1 and #2 shall be limited to a total of 60,000 gallons of #2 fuel oil on a 12 month rolling total.
3. The PCHS Generator shall be limited to 500 hours of operation based on a 12 month rolling total. The PCHS generator shall fire only Diesel fuel with a sulfur content not to exceed 0.05%.
4. PCS shall be restricted to the following annual emissions, based on a 12 month rolling total:

**Total Licensed Annual Emission for the Facility  
Tons/year  
(used to calculate the annual license fee)**

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
PCHS Boilers	0.34	0.34	2.12	0.60	0.15	0.02
PCMS Boilers	0.50	0.50	2.12	0.60	0.15	0.02
PCHS Generator	0.03	0.03	0.01	1.25	0.27	0.10
<b>Total TPY</b>	<b>0.87</b>	<b>0.87</b>	<b>4.25</b>	<b>2.45</b>	<b>0.57</b>	<b>0.14</b>

**III. AMBIENT AIR QUALITY ANALYSIS**

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Based on the total facility emissions, PCS is below the emissions level required for modeling and monitoring.

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**ORDER**

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License amendment A-68-71-H-R/M subject to the following conditions:

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

**STANDARD CONDITIONS**

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 MRSA §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [MEDEP Chapter 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [MEDEP Chapter 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [MEDEP Chapter 115]

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- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [MEDEP Chapter 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [MEDEP Chapter 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [MEDEP Chapter 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [MEDEP Chapter 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [MEDEP Chapter 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [MEDEP Chapter 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
  - A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
    1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
    2. pursuant to any other requirement of this license to perform stack testing.
  - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
  - C. submit a written report to the Department within thirty (30) days from date of test completion.

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[MEDEP Chapter 115]

- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
  - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
  - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[MEDEP Chapter 115]

- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [MEDEP Chapter 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [MEDEP Chapter 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [MEDEP Chapter 115]

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**SPECIFIC CONDITIONS**

**(16) PCHS Boilers #1 and #2**

- A. Total fuel use for PCHS Boilers #1 and #2 shall not exceed 60,000 gal/yr of #2 fuel oil combined. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of fuel delivered. Records of annual fuel use shall be kept calendar year basis. [MEDEP Chapter 115, BACT]
- B. Emissions from PCHS Boilers #1 and #2 shall not exceed the following: [MEDEP Chapter 115, Chapter 103, BACT]

<b>Emission Unit</b>		<b>PM (lb/hr)</b>	<b>PM<sub>10</sub> (lb/hr)</b>	<b>SO<sub>2</sub> (lb/hr)</b>	<b>NO<sub>x</sub> (lb/hr)</b>	<b>CO (lb/hr)</b>	<b>VOC (lb/hr)</b>
Boiler #1	lb/MMBtu	0.08	-	-	-	-	-
	lb/hr	0.35	0.35	2.22	0.63	0.16	0.02
Boiler #2	lb/MMBtu	0.08	-	-	-	-	-
	lb/hr	0.35	0.35	2.22	0.63	0.16	0.02

- C. Visible emissions from PCHS Boilers #1 and #2 shall each not exceed 10% opacity on a six (6) minute block average, except for no more than one (1), six (6) minute block averages in a continuous 3-hour period. [MEDEP Chapter 101, BACT]

**(17) PCMS Boilers #1 and #2**

- A. Total fuel use for PCMS Boilers #1 and #2 shall not exceed 60,000 gal/yr of #2 fuel oil combined. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of fuel delivered. Records of annual fuel use shall be kept on a calendar year basis. [MEDEP Chapter 115, BPT]



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- B. Emissions from PCMS Boilers #1 and #2 shall not exceed the following:  
 [MEDEP Chapter 115, Chapter 103, BPT]

Emission Unit		PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	lb/MMBtu	0.12	-	-	-	-	-
	lb/hr	0.59	0.59	2.47	0.70	0.18	0.02
Boiler #2	lb/MMBtu	0.12	-	-	-	-	-
	lb/hr	0.59	0.59	2.47	0.70	0.18	0.02

- C. Visible emissions from PCMS Boilers #1 and #2 shall each not exceed 20% opacity on a six (6) minute block average, except for no more than one (1), six (6) minute block averages in a continuous 3-hour period. [MEDEP Chapter 101]

(18) PCHS Generator

- A. PCS shall limit the PCHS Generator to 500 hr/yr of operation (based on a 12 month rolling total). An hour meter shall be maintained and operated on the PCHS Generator. [MEDEP Chapter 115, BACT]
- B. The PCHS Generator shall only be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. The PCHS Generator shall not be used for prime power when reliable offsite power is available. A log shall be maintained documenting the date, time, and reason for operation. [MEDEP Chapter 115, BACT]
- C. The PCHS Generator shall fire diesel fuel with a sulfur limit not to exceed 0.05% by weight. Compliance shall be based on fuel records from the supplier showing the quantity of fuel delivered and the percent sulfur of the fuel. [MEDEP Chapter 115, BACT]
- D. Emissions shall not exceed the following [MEDEP Chapter 115, BACT]:

Emission Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
PCHS Generator	0.14	0.14	0.06	4.98	1.07	0.40

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- E. Visible emissions from the PCHS Generator shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [MEDEP Chapter 101]
- (19) PCHS shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (Title 38 MRSA §605).
- (20) **Payment of Annual License Fee**  
PCS shall pay the annual air emission license fee within 30 days of **June 30th** of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.

DONE AND DATED IN AUGUSTA, MAINE THIS                      DAY OF                      2007.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: \_\_\_\_\_  
DAVID P. LITTELL, COMMISSIONER

**The term of this license shall be five (5) years from the signature date above.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 1/17/2007

Date of application acceptance: 1/25/2007

Date filed with the Board of Environmental Protection: \_\_\_\_\_

This Order prepared by Jonathan Voisine, Bureau of Air Quality.